

WHAT IS CLAIMED IS:

1. A cross substrate comprising at least one resin sealed layer of a cross member, said at least one resin sealed layer of a cross member having warp threads and weft threads, wherein a portion of at least one of the warp threads and weft threads include a plurality of conductive thread-like wire members disposed substantially parallel to one another, with the wire members electrically insulated from one another, and an electrode portion formed at one region of the thread-like wire members.

2. A cross substrate according to claim 1, wherein the thread-like wire members have surfaces covered by an insulating material, other than at the electrode portion.

3. A cross substrate according to claim 1, further comprising at least one other layer of a cross member, said at least one other cross member having warp threads and weft threads, wherein a portion of at least one of the warp threads and weft threads include a plurality of conductive thread-like wire members disposed substantially parallel to one another, the thread-like wire members of each cross-member being oriented in a direction different from the thread-like wire members in the other cross-member.

4. A cross substrate according to claim 2, wherein a portion of both of the warp threads and the weft threads include a plurality of

conductive thread-like wire members disposed substantially parallel to one another, with the wire members electrically insulated from one another, and at an intersecting position, at least one wire member of the warp threads crosses at least one wire member of the weft threads, and are electrically connected to one another at the intersecting position.

5. A cross substrate comprising:

(a) a plurality of conductive members extending in a predetermined first direction; and

(b) a plurality of insulating members extending in a second direction intersecting said first direction, and disposed so as to traverse regions between adjacent conductive members.

6. A cross substrate according to claim 1, wherein said cross substrate forms a casing having an interior with an inner side surface, and a semiconductor element is provided at an inner side surface of an interior of the casing.

7. A semiconductor device comprising:

(a) a cross substrate comprising at least one resin sealed layer of a cross member, said at least one resin sealed layer of a cross member having warp threads and weft threads, wherein a portion of at least one of the warp threads and weft threads include a plurality of conductive thread-like wire members disposed substantially parallel to one another, with the wire members electrically insulated from one another, and an

electrode portion formed at one region of the thread-like wire members;

(b) a heat-dissipating plate having a high heat transfer coefficient;
and

(c) a semiconductor element having a reverse surface side and a circuit forming surface side, the circuit forming surface side being mounted to the cross substrate, and the heat-dissipating plate being sealed at the reverse side surface.

8. A semiconductor device comprising:

(a) a cross substrate comprising at least one resin sealed layer of a cross member, said at least one resin sealed layer of a cross member having warp threads and weft threads, wherein a portion of at least one of the warp threads and weft threads include a plurality of conductive thread-like wire members disposed substantially parallel to one another, with the wire members electrically insulated from one another, and an electrode portion formed at one region of the thread-like wire members;
and

(b) a semiconductor element having a reverse surface side and a circuit forming surface side, the circuit forming surface side being fixed to the cross substrate, and a conductive layer being disposed in a layer covering the reverse surface side.

9. A semiconductor substrate comprising:

a semiconductor element having a surface with a plurality of electrodes thereat;

a plurality of conductive members which extend in a predetermined first direction with each conductive member electrically connected to a corresponding electrode of the semiconductor element;

a plurality of insulative members which extend in a second direction transverse to the first direction, and which are disposed so as to traverse regions between adjacent conductive members; and

a sealing resin, the conductive members having surfaces and the conductive members and the electrodes having connected portions, the sealing resin sealing at least the said surfaces and connected portions, and leaving at least one portion of the plurality of conductive members exposed.

10. A method of mounting a semiconductor element comprising the steps of:

(a) providing a cross member having at least one layer of warp threads and weft threads, wherein a portion of at least one of the warp threads and weft threads include a plurality of conductive thread-like wire members disposed substantially parallel to one another, with the wire members electrically insulated from one another, and an electrode portion formed at one region of the thread-like wire members;

(b) mounting a semiconductor element having an electrode forming surface with a plurality of electrodes thereat, onto said at least one layer of the cross member such that at least one of the plurality of electrodes of the semiconductor element is electrically connected to at least one of the thread-like wires;

(c) sealing the cross member and the electrode forming surface of the semiconductor element with an insulating resin.

11. A method of mounting a semiconductor element according to claim 10, wherein the wire members have surfaces covered with an insulating material, except for a position of each wire member at which electrodes of the semiconductor element are disposed.

12. A method of mounting a semiconductor element according to claim 10, wherein the cross member has at two layers, such that orientations of wire members are different in each layer.

13. A method of mounting a semiconductor element according to claim 11, wherein at least one of the warp threads and one of the weft threads cross one another at a location, and are electrically connected to one another thereat.

14. A method of mounting a semiconductor element according to claim 11, wherein said cross substrate forms a casing having an interior with a surface, and the semiconductor element is provided at the surface of the interior of the casing.